

REMARKSI. Introduction

In response to the Office Action dated December 12, 2007, claims 6-10 and 20 have been cancelled, claims 1, 4, 5, 11-13, 15, 19 and 25 have been amended, and claim 27 has been added. Claims 1-5, 11-19 and 21-27 is in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Claim Amendments

Applicants' attorney has made amendments to the claims as indicated above. These amendments were made solely for the purpose of clarifying the language of the claims, and were not required for purposes of patentability.

III. Office Action Objections

In paragraphs 2-3, the Office Action objects to claims 1-18 because they recite modules for performing functions. Although the Applicants believe the language used in the claims as filed is not objectionable, they have amended the claims in accordance with the suggested form.

IV. Non-Art Rejections

In paragraphs 4-6, the Office Action rejects claims 12 and 13 for being indefinite as to the "interface processor." The Applicants thank the Examiner for noting this error and have made appropriate amendments to the claims.

V. The Cited References and the Subject Invention

A. The Schier Reference

U.S. Patent No. 6,907,123, issued June 14, 2005 to Schier discloses a secure voice communication system. A secure real time voice communication system 70 is provided that allows for the secure transmission of voice communications between a sending device 72 and a receiving device 78 through the public switch telephone network 76. The device 72 uses an encryption decryption engine 30 which is capable of executing a number of encryption algorithms which are

selected using an encryption selection table 80. An encryption key can be calculated from a periodic key value and a public variable key value. Further, the encryption algorithm used can be periodically changed during a voice communication session so that multiple encryption techniques can be used within the same communication session.

B. The Gungl Reference

U.S. Patent No. 5,912,453, issued June 15, 1999 to Gungl et al. disclose multiple application chip card with decoupled programs. The integration of multiple application programs on one chip card is described, whereby the application programs stored on it do not have access to each other, which is achieved through a separation and de-coupling of the individual programs from one another. A first embodiment has several mutually-independent units, consisting respectively of a processor unit and a memory unit. Communication of these independent units with the external world and also with each other takes place through a control unit. A communication of the independent units with each other can only take place through the respective processor units, so that the linked memory units may not be accessed by circumvention of the processor unit. In a further embodiment, the separation of different applications on a chip card with only one processor takes place through the insertion of a separation of the application segments in the memory area of the chip card. The separation has as a result that each application may only access one predetermined area within the memory, and that access outside of the specified memory area is disabled for this application.

C. The Thompson Reference

U.S. Patent No. 6,163,721, issued December 19, 2000 to Thompson discloses power consumption reduction in medical devices by employing pipeline architecture. Power consumption in medical and battery powered devices is reduced through the use and operation of pipeline architecture in a digital signal processor, microcontroller or microprocessor by operating such devices at clock frequencies tailored to conserve power while preserving computational and executional performance. The digital signal processor, microcontroller or microprocessor can be operated at lower clock frequencies relative to those that would be required by one of such processors to complete the multiple functions within a predetermined time period but having no

pipeline architecture. With reduced clock frequency, power consumption is reduced. Further, with reduced clock speed, supply voltages applied to such processors may also be reduced.

VI. Office Action Prior Art Rejections

In paragraphs (7)-(8), the Office Action rejected claims 1, 2, 4-13, 15-16, and 19-26 under 35 U.S.C. § 102(e) as anticipated by Schier, U.S. Patent No. 6,907,123 (Schier). The Applicants respectfully traverse this rejection.

With Respect to Claim 1: As amended, claim 1 recites:

A conditional access module, configured to control access to a media program via a receiver communicably coupleable to the conditional access module, comprising:

a first processor;

a second processor; and

an interface module, communicatively coupled to the first processor and the second processor, the interface module configured to process all communications with the conditional access module and to externally manifest a single virtual processor to the receiver[[.]];

wherein the interface module receives messages from the receiver, interprets the received messages, and generates first processor messages for the first processor and second processor messages for the second processor and wherein the received messages include encrypted data and the functional allocation is time varied according to the encrypted data. (emphasis added)

The Applicants respectfully traverse this rejection. First, Claim 1 recites an interface module that manifests a single virtual processor to receiver. The Office Action indicates that Schier discloses this feature by virtue of it's two encryption/decryption engines and it's CPU. However, even if Schier's CPU may be said to manifest a single processor to a receiver, it does not manifest a single *virtual* processor. Schier discloses nothing more than a CPU that uses two encryption processors.

Second, claim 1 has been amended to recite that messages received by the interface module include encrypted data and that the functional allocation between the first processor and the second processor is time varied according to the encrypted data. These features were originally recited in claim 10 of the application as filed, and the Office Action rejected claim 10 based on the following passage of Schier:

According to a further aspect of this embodiment of the present invention, the telephones 72 and 78 are further operable to switch from one encryption technique to another on a periodic basis. As such, the key value which is calculated from the index value serves as a starting point within table 80. The devices 72 and 78 then step through the table switching to the next row in the table on a periodic basis. According to one embodiment of the present invention, the telephone which initiated the call provides a short tone signal or utilizes out of band signaling to provide an encryption switch signal to the receiving device. The sending device utilizes a timer such as timer 32 to calculate when the switch to the next encryption algorithm should be initiated. In this manner, a telephone conversation can occur which begins using an encryption algorithm and switches to a next indicated encryption algorithm on a periodic basis such as, for example, every 15 or 30 seconds.

The foregoing discloses that a short tone, provided in an out-of-band signal, is used to switch from one encryption algorithm to the next. This is not analogous to time varying a functional allocation between processors according to received encrypted data.

With Respect to Claim 13: Claim 13 recites that the interface module is a hardware state machine. In rejecting claim 1, the Office Action indicated that the CPU was analogous to the interface module, and the CPU cannot be reasonably interpreted to be a hardware state machine. The Office Action indicates that the claimed state machine is disclosed by a "device implemented using several disparate encryption methods (i.e. state) in synchronization with each other." However, this does not teach or suggest a hardware state machine. Accordingly, the Applicants respectfully traverse.

With Respect to Claim 15: Claim 15 recites:

The apparatus of claim 1, wherein the first processor and the second processor are communicatively coupled to a shared programming control module, the shared program control module external to the interface module.

The Office Action indicates that the "shared programming control module" is the CPU 20. However, the Office Action has already analogized the claim one's "interface module" to the CPU, and claim 15 now recites that the shared program control module is external to the interface module.

With Respect to Claims 19 and 25: Claim 19 recites:

*A method of controlling access to a media program, comprising the steps of:
receiving a message in a conditional access module from a receiver, the message comprising encrypted information to be decrypted by operations independently performed by a both a first processor and a second processor in the conditional access module;*

*generating first processor commands and second processor commands from the message;
providing the first processor commands to the first processor and the second processor commands to the second processor;
receiving a first processor response from the first processor;
receiving a second processor response from the second processor; and
generating a conditional access message response from at least a portion of the first processor response and the second processor response;
wherein the media program is encrypted by a control word, the encrypted information is a control word packet, and the conditional access message response is the control word.*

Claim 19 has been amended to that the media program is encrypted by a control word, that the encrypted information is a control word packet, and that the conditional access message response is the control word. These amendments incorporate some of the features of claim 20 into claim 19. In rejecting claim 20, the Office Action argued that the "control word packet" was analogous to the "encryption switch signal" of the Schier reference. However, claim 20 recited that the *encrypted information* was a control word, and the encryption signal switch of the Schier reference is not itself encrypted. Claim 20 further recites that the conditional access message response (which, according to claim 19, was generated from the first and second processor responses) is a control word. With respect to these features, the Office Action argued that the "device calculat[ing] when to switch to the next encryption algorithm using a timer" is somehow analogous to a message response. Of course, the two are not analogous in any way. Accordingly the Applicants respectfully traverse.

Claim 25 recites features analogous to those of claim 19 and is patentable for the same reasons.

With Respect to Claim 21: Claim 21 recites:

*The method of claim 19, wherein first processor and the second processor operate independently and wherein the step of generating first processor commands and second processor commands from the message comprises the steps of:
alternately directing received messages to the first processor and the second processor.*

The Office Action argues that the following portion of the Schier reference discloses "generating first processor commands and second processor commands" by "alternately directing received messages to the first processor and the second processor:

15 The device 14 also includes an encryption decryption
engine 30 which is operable to execute a number of simple
encryption and decryption algorithms as directed by the
encryption selection table and under the control of the
central processing unit 20. Engine 30 may comprise a single
20 processing unit or, alternatively, may comprise multiple
processing units which are able to perform encryption or
decryption using the same or different algorithms simulta-
neously. The use of such parallel processing capability can
greatly enhance the processing throughput of the overall
system. Finally, the device 14 includes a timer 32 which may
25 be used in an embodiment of the present invention that is
operable to use different encryption techniques in real time
communications. This embodiment of the present invention
will be described more completely with reference to FIGS.
5 through 7 herein.

However, the foregoing simply discloses parallel processing. This does not disclose
“alternately directing received messages to the first processor and the second processor” as claimed.

With Respect to Claim 24: Claim 24 recites:

*The method of claim 22, wherein the received messages include encrypted data and the functional
allocation is time varied according to the encrypted data.*

As described above with respect to claim 1, the Schier reference does not disclose time
varying a functional allocation according to encrypted data.

In paragraphs (9)-(10), the Office Action rejected claims 3 and 17-18 under 35 U.S.C.
§103(a) as being unpatentable over Schier in view of Gungl et al., U.S. Patent No. 5,912,453 (Gungl).
The Applicants respectfully traverse these rejections. Claims 3 and 17-18 are patentable for the
reasons described above.

In paragraph (11), the Office Action rejected claim 14 under 35 U.S.C. §103(a) as being
unpatentable over Schier in view of Thompson, U.S. Patent No. 6,163,721 (Thompson). Applicants
respectfully traverse these rejections. Claim 14 is patentable for the reasons cited above.

VII. Dependent Claims

Dependent claims 2- 5, 11-18, 21-24 and 26-27 incorporate the limitations of their related
independent claims, and are therefore patentable on this basis. In addition, these claims recite novel
elements even more remote from the cited references. Accordingly, the Applicant respectfully
requests that these claims be allowed as well.

VIII. New Claims

New claim 27 is presented for the first time in this Amendment. For the reasons described above, new claim 27 is patentable over the prior art of record, and the Applicant respectfully requests the allowance of these claims as well.

IX. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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